

replicated – by others practising the invention as taught in the application. Accordingly this ground for the objection cannot sustain the objection and is traversed.

More pertinent as possible grounds for any objection is the citation in the FOA to an assertion by Shanahan of apparent excess heat from cold fusion “due to possible recombination considerations at the electrode in an electrolytic cell”. Shanahan’s suggestion depends upon “the absence of definitive data ruling out recombination as the source of the apparent “excess heat” ” (OA, ¶12, p. 13.)

The Examiner properly requested “sufficient substantiating evidence of operability”. It is presumed that such evidence of operability address the Examiner’s fundamental concern – the production of heat through some method – rather than the considerably more well-understood means of transforming heat into work, as through a steam engine. The Examiner’s concern, as the Applicant and Attorney understand it, is that the Applicant show that his method can produce heat in a liquid, rather than show that the heated liquid can be used to power an engine.

Accordingly, Applicant submits the accompanying Declaration from the Applicant relating specific details from the experiments he performed that verifiably, and reproducibly, produced heat in a liquid (water, in fact) as requested.

Attorney states without reservation that Applicant does not have, nor does he expect to have, a fully-fleshed out, and generally accepted theoretical explanation for the phenomena which Applicant is able to produce and reproduce. But Applicant’s sworn testimony constitutes evidence and thus proof (in the absence of contrary evidence) of such phenomena; proof sufficient to overthrow theoretic doubts or nay-sayers.

The Final Office Action stated explicitly that “Applicant asserts that he has succeeded where others have failed. Thus, there must be some critical feature of applicant’s invention that enables his system to produce actual, positive results. Said critical feature must be clearly specified and explained so as to enable an artisan to make and use the

invention as required by statute.” (FOA, p. 7, ¶8, lines 3-7 on that page). Applicant’s Declaration, submitted with this Response, describes the experimental methodology and experimental results that establish the required ‘actual, positive results’. They also show the required ‘critical feature’, as well as indicia of unexpected results.

Applicant also respectfully requests that the Office take notice of U.S. Patent 7,442,287, issued Oct. 28, 2008, from Application 11/413,485, for “Material surface treatment method using concurrent electrical, vibrational and photonic stimulation”. This patent was issued to the current Applicant, and specific attention is called to the following assertion therein: “SUMMARY DISCLOSURE [¶] The invention is a protocol that prepares the surface of a material, such as palladium, for an exothermic reaction. The protocol consists of a specific series of steps applying compounded and concurrent electrical, photonic, and vibratory stimuli between palladium electrodes immersed in a solution containing lithium sulfate as an electrolyte and anionic silica hydride as a surfactant while that solution is maintained at an elevated temperature at or near the boiling point. The solution is buffered to a pH in the range of 6.5 to 8.9. After preparation of the surface, a final step of the protocol calls for stimulation of the cathode with a DC voltage. [¶] The protocol shows evidence that the bonding of the palladium has changed at or near surface, for example, in that it will now stain with methylene blue. It also yields a sustained exothermic reaction at or near the boiling point of the solution.”

A second objection to the specification was made on the grounds of 35 USC §112, first paragraph, as “failing to provide an adequate written description” (emphasis in Office Action original). Specifically, the objection was the failure “to explicitly disclose what the indirect excitation means is”.

It is strongly suggested that this objection arises from a failure of the language used to convey the distinction between a “direct” and “indirect” excitation. The specification clearly, plainly, and explicitly states: “The additional energy added to the fluid F may be

provided by... inducing a low energy nuclear reaction (LENR) within the nozzle, using conduction and convection to heat the fluid F...” (Specification, p. 5, lines 16-19; the omitted first and final clauses of this sentence will be discussed below.) Excitation of the material of the nozzle will heat the fluid in the nozzle through inter-molecular collisions, i.e. heat transference by means of “conduction” or “convection”. To the extent that individual molecules of the fluid permeate or directly contact the heat transference block they may be directly excited into a phase change; to the extent the energy of such phase changes affects other molecules of the fluid, they are indirectly excited. At the element-of-a-system level (that is, at the level where the claims are drafted), however, the excitation is of the nozzle.

This is distinguished from excitation means that induce LENR in the fluid flowing through the nozzle, i.e. beyond the boundary at the element-of-the-structure level of the claims language, or interior surface, of the nozzle. Intra-molecular permeation (of molecules of the fluid into the nozzle material), is not addressed at this level of detail.

Contrary to the assertion in the Response that the specification “requires experimentation to determine if the energy claimed to be transferred into the nozzle actually heats the nozzle (through LENR)”, fundamental thermodynamics assures that energy transferred into the nozzle will heat the nozzle; no experimentation on this point is needed.

The crux of this objection is that the inventor “omits information essential to the utility and/or manufacture of the claimed invention” and most particularly, “an example of an indirect excitation means, how the indirect excitation means functions to enable LENR, temperatures requirements, etc.” (Response, p. 8, paragraph (F).)

The applicant is not and cannot be required to provide any explanation of “how the indirect excitation means functions to enable LENR” – not, that is, to any extent that the word “how” is read to mean requiring a theoretical explanation. Inventors never need to provide a theoretical explanation and are entitled to an invention even if their theoretical explanation is not just incomplete or missing, but even wrong.

In terms of implementation, the specification does provide adequate detail. For example, the Specification stated in the first and final clauses to the text cited above, which add just the specific detail which the applicant found to be critical, these specific extra details, “The additional energy added to the fluid F may be provided by electrical stimulation of a portion of the throat adding heat directly to the fluid F, inducing a low energy nuclear reaction (LENR) within the nozzle,...or any combination thereof.” (Specification, p. 5, lines 19-20.)

Immediately after that, additional detail is added: “The phase change may be further supported by a surfactant in the fluid F that promotes and enhances the low energy nuclear reactions in the nozzle.” (Specification, p. 5, lines 20-21.) Figures 7 and 8 give the pattern of the electrical stimulation, which was experimentally confirmed to be more important than the absolute values. Additional details can now be readily determined by reference to U.S. Patent 7,442,287 (e.g. “That stimulus is a time-varying voltage with a baseline near ground potential. It is shown in FIGS. 2 and 3 in a ramped and unramped form, respectively. Observations show that a 3.15 MHz pulse train modulated by a 50 MHz sine wave is effective.”)

Applicant understands that the Office desires further “quantitative or qualitative data” and has provided the same in his accompanying Declaration, which is hereby incorporated in this Response in entirety.

The Response further objected in paragraph (H) to a lack of research “into the material science aspects of deuterated metal”. That, however, presumes that a deuterium-based LENR process is involved. As the applicant’s accompanying declaration explicitly states, that assumption is not necessary. It is improper to require that the applicant adhere to a theoretical explanation or model which his own effort has already shown to be unnecessary.

For all of the above reasons, Applicant respectfully asserts that this objection has been traversed and that sufficient proof of utility and operability is presently before the Office, thereby enabling this invention for those skilled in the art.

OBJECTION TO THE CLAIMS

The claims 4-10 were rejected under 35 U.S.C. §112 for reasons “the same as the reasons for the objection to the specification for lack of enablement”. (Response, p. 9, § 11.) For the grounds advanced above, it is asserted that this objection has been traversed.

Claim 4 has been amended, and Claims 24-36 added, all in conformance with the original Specification including all of the drawings thereof, and in compliance with the imposed restriction. It should be noted that, to the extent that the Office objected to a lack of details concerning implementation in the claims, these details have been and are now disclosed in all of the claims, including those currently amended.

Accordingly, it is respectfully asserted that the objections are traversed and the claims, as amended, are now proper.

REQUEST FOR CONTINUING EXAMINATION

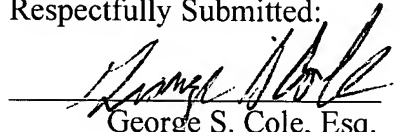
If the Examiner does not feel that the Response to the Final Office Action adequately prepare the application so as to permit issuance under the submitted claims, Petitioner respectfully requests a continued examination on the application that incorporates the amended and added claims, and the necessary fee for such Continued Examination is enclosed filed herein.

If the Examiner has any questions or wishes to discuss this matter he is urged to contact the Applicant's attorney, George S. Cole, Esq., using the phone, fax, or email below.

A claims listing with the status of each claim, with the claims in ascending order, and with the text of the claim, has been appended to this Response. This listing of claims will replace all prior versions, and listings, of claims in the application.

The Applicant believes that these claims are now all in presently allowable, correct, and proper form, and respectfully asks for a timely Notice of Allowance to be issued.

Respectfully Submitted:


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